

Method for producing a fiber-composite material for producing fiber-composite components

5 The invention relates to a method for producing a fiber-composite material for producing fiber-composite components.

This fiber-composite material comprises the reinforcement fibers and a matrix with added fillers, whereby the matrix is a resin system. The use of fillers in combination with reaction resins is thereby used on a large scale.

10 Calcium carbonate, dolomite, kaolin, talc, quartz, wollastonite, aluminum hydrate, antimony trioxide, barite or hollow glass spheres are commonly used as fillers:

However, with the use of the fillers hitherto known in the prior art, it has not been possible to obtain a mirror-like surface of the fiber-composite component, i.e., a surface that meets today's requirements for a class A "visible component" in vehicle construction.

15 The object of the invention is therefore to propose a method with which better mechanical and optical properties (class A surfaces) can be realized with fiber-composite components and moreover production can be quicker, i.e., thus more cost-effective, than hitherto usual.

20 An essentially more homogenous component with more advantageous properties than hitherto usual is possible by using fillers of the material of the actual reinforcement fibers, e.g., carbon fibers. Moreover the component surface becomes very smooth, a surface of quality class A can thus be obtained, which is an important requirement for visible components in vehicle construction. No negative stresses occur with heat or cold, the component can later be recycled
25 more easily and also more cost-effectively.

A material is added as filler to the resin, preferably comprising highly reactive reaction resins, i.e., the subsequent matrix, which material comprises the material of the actual reinforcement fibers. To this end the fiber material is finely

ground or cut and added to the resin. The ground material preferably has a size of less than 2 mm and the cut fibers preferably have a size of less than 20 mm.

The invention further relates to a resin film with one or both of these specified fillers, i.e., the ground material or the cut fibers of the actual reinforcement fibers
5 of the fiber-composite component. This resin film can be combined with textile semi-finished products, e.g., woven fabrics, braided fabrics, knitted fabrics, unidirectional or multiaxial laid fabrics.

It is also possible to combine the filler with a conventional prepreg, in which the filler is spread or blown onto the prepreg.

10 It is furthermore possible to apply the resin filler mixture by means of a spray method onto textile semi-finished products, e.g., woven fabrics, knitted fabrics, braided fabrics, unidirectional or multiaxial laid fabrics. These textile semi-finished products can then be further processed into, e.g., brief molds.

The invention further relates to a sheet molding compound. The sheet molding
15 compound comprises a resin matrix system and reinforcement fibers and optionally fillers. According to the invention it is thereby provided that the filler or the additional filler is ground material of the material of which the reinforcement fibers are composed.